

CLAIMS

1. A process for the treatment of a hydrocarbon charge, at least 80% of the compounds of which have a boiling point which is above or equal to 340°C, in which process:
 - a) the charge is sent to a fractionation stage during which the recovery takes place of:
 - at least one heavy fraction comprising at least 90% by weight of compounds which boil at above 450°C and at below 700°C,
 - and at least one light fraction which boils at less than the heavy fraction(s),
 - a residuum which boils at more than the heavy fraction(s),
 - b) at least part of the heavy fraction is sent to an extraction stage during which at least some of the resins contained in said heavy fraction are extracted, and a purified fraction is recovered,
 - c) a mixture is made which comprises at least part of the purified fraction obtained in the extraction stage and at least one light fraction obtained in the fractionation stage, and
 - d) the mixture thus obtained is sent to a cracking stage.
2. A process according to Claim 1, in which the content of resins in the 340°C-700°C fraction of the charge is between 3 and 15% by weight.
3. A process according to one of Claims 1 to 2, in which the heavy fraction resulting from the first fractionation stage comprises a resin content of more than 5% by weight.
4. A process according to one of Claims 1 to 3, in which at least 20% by weight of the resins contained in the heavy fraction is extracted.
5. A process according to one of Claims 1 to 4, in which the extraction of the resins of the heavy fraction makes it possible to obtain a purified fraction with a content of polyaromatic compounds comprising up to 5 cycles of less than 2% by weight.
6. A process according to one of Claims 1 to 5, in which the extraction of the resins of the heavy fraction makes it possible to obtain a purified fraction, the nitrogen content

of which is reduced by at least 20% by weight in relation to the heavy fraction which was introduced in the extraction stage.

7. A process according to one of Claims 1 to 6, in which the extraction stage is carried out in an extraction column, using propane, under the following operating conditions :
 - a solvent ratio of between 2/1 and 12/1,
 - a temperature at the head of the extractor of between 55 and 95°C,
 - a temperature at the bottom of the extractor of between 30 and 80°C,
 - a pressure in the extractor of between 300 and 400 MPa, and
 - between 2 and 5 theoretical stages.
8. A process according to one of Claims 1 to 7, in which the cracking stage is hydrocracking.
9. A process according to Claim 8, in which a residuum fraction is obtained from the hydrocracking stage and is sent, at least in part, to a dewaxing and hydrofinishing section for making oil bases.
10. A process according to Claims 1 to 8, in which a residuum fraction is obtained from the hydrocracking stage and is sent, at least in part, to an FCC unit.
11. A process according to one of Claims 8 to 10, in which a residuum fraction is obtained from the hydrocracking stage, and is recycled, at least in part, to the hydrocracking stage.
12. A process according to one of Claims 1 to 7, in which the cracking stage is catalytic cracking in fluidised bed (FCC).
13. A process according to Claim 12, in which the FCC stage is preceded by a hydrotreatment stage.

14. A process according to one of the preceding claims, in which the charge is selected from a direct distillation residuum, a residuum from a conversion process, a coking residuum, a residuum from a hydroconversion process in fixed bed, a residuum from a conversion process in boiling bed, or a mixture of any one of these.

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15. A process according to one of the preceding claims, in which an external charge is added to the heavy fraction entering the extraction stage, said charge being a vacuum distillate or an aromatic extract.

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